



## Complete Summary

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### **GUIDELINE TITLE**

Multifactorial therapy and the progression of diabetic nephropathy.

### **BIBLIOGRAPHIC SOURCE(S)**

Nicholls K. Multifactorial therapy and the progression of diabetic nephropathy. Nephrology 2006 Apr;11(S1):120-22.

Nicholls K. Multifactorial therapy and the progression of diabetic nephropathy. Westmead NSW (Australia): CARI - Caring for Australasians with Renal Impairment; 2005 Sep. 7 p. [3 references]

### **GUIDELINE STATUS**

This is the current release of the guideline.

## **COMPLETE SUMMARY CONTENT**

SCOPE  
METHODOLOGY - including Rating Scheme and Cost Analysis  
RECOMMENDATIONS  
EVIDENCE SUPPORTING THE RECOMMENDATIONS  
BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS  
IMPLEMENTATION OF THE GUIDELINE  
INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES  
IDENTIFYING INFORMATION AND AVAILABILITY

## **SCOPE**

### **DISEASE/CONDITION(S)**

- Chronic kidney disease
- Diabetes mellitus
- Diabetic nephropathy

### **GUIDELINE CATEGORY**

Management  
Treatment

### **CLINICAL SPECIALTY**

Endocrinology  
Family Practice  
Internal Medicine  
Nephrology  
Nutrition  
Pediatrics

## **INTENDED USERS**

Dietitians  
Physicians

## **GUIDELINE OBJECTIVE(S)**

To evaluate the evidence for multiple-intervention strategies in the progression of diabetic nephropathy

## **TARGET POPULATION**

Adults and children with chronic kidney disease and diabetes mellitus Type 1 and Type 2

## **INTERVENTIONS AND PRACTICES CONSIDERED**

Intensive combination therapy

## **MAJOR OUTCOMES CONSIDERED**

- Microvascular endpoints
- Macrovascular endpoints
- Progression of diabetic nephropathy

## **METHODOLOGY**

### **METHODS USED TO COLLECT/SELECT EVIDENCE**

Searches of Electronic Databases

### **DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE**

**Databases searched:** The Cochrane Renal Group Specialized Register was searched for randomized controlled trials relating to the prevention of progression of kidney disease in people with diabetes mellitus Type 1 and Type 2. Specific interventions included antihypertensive therapies, angiotensin converting enzyme (ACE) inhibitors, A II receptor antagonists, calcium channel blockers, dietary protein restriction and glucose control, and interventions to control hypercholesterolemia and hyperlipidemia.

**Date of search:** 16 December 2003.

## **NUMBER OF SOURCE DOCUMENTS**

Not stated

## **METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE**

Weighting According to a Rating Scheme (Scheme Given)

## **RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE**

### **Levels of Evidence**

**Level I:** Evidence obtained from a systematic review of all relevant randomized controlled trials (RCTs)

**Level II:** Evidence obtained from at least one properly designed RCT

**Level III:** Evidence obtained from well-designed pseudo-randomized controlled trials (alternate allocation or some other method); comparative studies with concurrent controls and allocation not randomized, cohort studies, case-control studies, interrupted time series with a control group; comparative studies with historical control, two or more single arm studies, interrupted time series without a parallel control group

**Level IV:** Evidence obtained from case series, either post-test or pretest/post-test

## **METHODS USED TO ANALYZE THE EVIDENCE**

Systematic Review with Evidence Tables

## **DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE**

Not stated

## **METHODS USED TO FORMULATE THE RECOMMENDATIONS**

Expert Consensus

## **DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS**

Not stated

## **RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS**

Not applicable

## **COST ANALYSIS**

A formal cost analysis was not performed and published cost analyses were not reviewed.

## **METHOD OF GUIDELINE VALIDATION**

Comparison with Guidelines from Other Groups  
Peer Review

## **DESCRIPTION OF METHOD OF GUIDELINE VALIDATION**

Recommendations of Others. Recommendations regarding multifactorial therapy and the progression of diabetic nephropathy from the following groups were discussed: Kidney Disease Outcomes Quality Initiative, UK Renal Association, Canadian Society of Nephrology, European Best Practice Guidelines, the American and Canadian Diabetes Associations, the American Diabetes Association Position Statement (2004), American Association of Clinical Endocrinology (2000), Canadian Diabetes Association, and Scottish Intercollegiate Guideline Network (2001).

## **RECOMMENDATIONS**

### **MAJOR RECOMMENDATIONS**

Definitions for the levels of evidence (I–IV) can be found at the end of the "Major Recommendations" field.

#### **Guidelines**

Intensive combination therapy protects against progression of diabetic nephropathy. (Level II evidence for Type 2 diabetes – single RCT) and Level III evidence for Type 1 diabetes – single small cohort study, small volume)

#### **Suggestions for Clinical Care**

(Suggestions are based on Level III and IV evidence)

Patient motivation, compliance and total cost of therapy may be limiting issues. Multi-factorial therapy is likely to be embraced long-term only by highly motivated patients. For motivated patients, the limited available data suggest possible synergistic effects of multifactorial intervention, for both micro- and macro-vascular endpoints.

#### **Definitions:**

#### **Levels of Evidence**

**Level I:** Evidence obtained from a systematic review of all relevant randomized controlled trials (RCTs)

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**Level III:** Evidence obtained from well-designed pseudo-randomized controlled trials (alternate allocation or some other method); comparative studies with concurrent controls and allocation not randomized, cohort studies, case-control studies, interrupted time series with a control group; comparative studies with historical control, two or more single arm studies, interrupted time series without a parallel control group

**Level IV:** Evidence obtained from case series, either post-test or pretest/post-test

### **CLINICAL ALGORITHM(S)**

None provided

## **EVIDENCE SUPPORTING THE RECOMMENDATIONS**

### **TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS**

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

## **BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS**

### **POTENTIAL BENEFITS**

Appropriate management of intensive combination therapy to prevent the progression of nephropathy in patients with chronic kidney disease

### **POTENTIAL HARMS**

Not stated

## **IMPLEMENTATION OF THE GUIDELINE**

### **DESCRIPTION OF IMPLEMENTATION STRATEGY**

Kidney Disease Outcomes Quality Initiative (2004): The number of medications is one obstacle to adherence – need to consider the cost, side-effects and convenience.

## **INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES**

### **IOM CARE NEED**

Living with Illness

### **IOM DOMAIN**

Effectiveness

## IDENTIFYING INFORMATION AND AVAILABILITY

### **BIBLIOGRAPHIC SOURCE(S)**

Nicholls K. Multifactorial therapy and the progression of diabetic nephropathy. Nephrology 2006 Apr;11(S1):120-22.

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### **ADAPTATION**

Not applicable: The guideline was not adapted from another source.

### **DATE RELEASED**

2006 Apr

### **GUIDELINE DEVELOPER(S)**

Caring for Australasians with Renal Impairment - Disease Specific Society

### **SOURCE(S) OF FUNDING**

Industry-sponsored funding administered through Kidney Health Australia

### **GUIDELINE COMMITTEE**

Not stated

### **COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE**

*Author:* Kathy Nicholls

### **FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST**

All guideline writers are required to fill out a declaration of conflict of interest.

### **GUIDELINE STATUS**

This is the current release of the guideline.

### **GUIDELINE AVAILABILITY**

Electronic copies: Available in Portable Document Format (PDF) from the [Caring for Australasians with Renal Impairment Web site](#).

Print copies: Available from Caring for Australasians with Renal Impairment, Locked Bag 4001, Centre for Kidney Research, Westmead NSW, Australia 2145

## **AVAILABILITY OF COMPANION DOCUMENTS**

The following is available:

- The CARI guidelines. A guide for writers. Caring for Australasians with Renal Impairment. 2009 Aug. 6 p.

Electronic copies: Available from the [Caring for Australasians with Renal Impairment \(CARI\) Web site](#).

## **PATIENT RESOURCES**

None available

## **NGC STATUS**

This NGC summary was completed by ECRI Institute on May 12, 2008.

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